

What is claimed is:

1. A method of forming CNT emitting sources, said method comprising the steps of:

5 providing a three-electrode structure, which includes a plurality of cathode lines and a plurality of gate lines intercrossing having openings for pixels formed which is located at positions in between each two gate lines intercrossing with cathode lines, said gate lines formed on a dielectric layer;

10 providing an imprint negative mold having pattern for imprinting emitting sources

utilizing said imprint negative mold dipped with CNT paste;

using said imprint negative mold imprinting said CNT paste on cathode lines through said openings; and

15 curing said CNT paste to form said CNT emitting sources.

2. The method according to claim 1 wherein said three-electrode structure is formed comprising the steps of:

providing a substrate;

forming a plurality of cathode lines on said substrate;

20 forming a dielectric layer on said substrate and overlaying said cathode lines;

forming a plurality of gate lines on said dielectric layer, said cathodes lines being perpendicular to said gate lines so as to define said pixels; and

25 patterning said dielectric layer over said pixels so as to form said

openings which expose said cathode lines.

3. The method according to claim 2 wherein said step of forming cathodes lines is formed by screen print with a silver layer on said substrate.

4. The method according to claim 2 wherein said step of forming gate lines is formed by screen print with a conductive layer on said dielectric layer.

5. The method according to claim 2 wherein said gate lines have a spacing between about 30- 300 μ m in between.

6. The method according to claim 2 wherein said openings have a depth between 5-50 μ m and a width between about 10-100 μ m.

7. The method according to claim 1 wherein said imprint negative mold is formed comprising the steps of:

providing a first mold material;
patterning said first mold material to form an imprint positive mold which includes a first positive pattern for said emitting sources and a second pattern for said gate lines;

injecting a second mold material, which is liquid to enclosed said imprint positive mold;

solidifying said second mold material; and
drawing of pattern from said imprint positive mold so that said imprint negative mold is formed.

8. The method according to claim 1 wherein said second pattern is to

housing said gate lines so as to prevent the CNT paste adhering to said gate lines while imprinting.

9. The method according to claim 1 wherein said first pattern is a pattern selected from the group consisting of cone, cylinder, star, pyramid and the combination thereof.

10. A method of forming CNT emitting sources, said method comprising the steps of:

providing a substrate;

forming a plurality of cathode lines on said substrate;

forming a dielectric layer on said substrate and overlaying said cathode lines;

forming a plurality of gate lines on said dielectric layer, said cathodes lines being perpendicular to said gate lines so as to define said pixels; and

patterning said dielectric layer over said pixels so as to form said openings which expose said cathode lines;

providing an imprint negative mold having pattern for imprinting emitting sources;

utilizing said imprint negative mold dipped with CNT paste;

using said imprint negative mold imprinting said CNT paste on cathode lines through said openings; and

curing said CNT paste to form said CNT emitting sources.

11. The method according to claim 10 wherein said step of forming cathodes lines is formed by screen print with a silver layer on said substrate.

12. The method according to claim 10 wherein said step of forming gate lines is formed by screen print with a conductive layer on said dielectric layer.

13. The method according to claim 10 wherein said gate lines have a spacing between about 30- 300 μ m in between.

14. The method according to claim 10 wherein said openings have a depth between 5-50 μ m and a width between about 10-100 μ m.

15. The method according to claim 10 wherein said imprint negative mold comprises a trench pattern to housing said gate lines so as to prevent the CNT paste adhering to said gate lines while imprinting.

16. The method according to claim 10 wherein said imprint negative mold comprising an inverse pattern selected from the group consisting of cone, cylinder, star, pyramid and the combination thereof.

17. The method according to claim 10 wherein said imprint negative mold is formed comprising the steps of:

providing a first mold material;

patterning said first mold material to form an imprint positive mold which comprises patterns for said gate lines and said emitting sources;

injecting a liquid mold material to enclosed said imprint positive mold;

solidifying said second mold material; and

drawing of pattern from said imprint positive mold so that said imprint negative mold is formed.

18. A method of forming CNT emitting sources, said method comprising the steps of:

providing a two-electrode structure having a plurality of cathode

lines;

providing an imprint negative mold having a pattern for imprinting emitting sources;

utilizing said imprint negative mold dipped with CNT paste;

5 using said imprint negative mold imprinting said CNT paste on cathode lines; and

curing said CNT paste to form said CNT emitting sources.

19. The method according to claim 18 wherein said step of forming cathodes lines is formed by screen print with a silver layer on said
10 substrate.